

Safeguards and Security Competency 4.8

Competency 4.8 Safeguards and security personnel shall demonstrate a familiarity level knowledge of financial management to meet commitments to quality, cost, and schedule for safeguards and security.

1. Supporting Knowledge and Skills

- a. Define and compare the terms “cost estimate” and “budget.”
- b. Describe the process for preparing cost estimates and budget.
- c. Describe and compare labor and non-labor costs.
- d. Describe and compare direct and indirect costs.
- e. Discuss methods of reducing indirect costs.
- f. Discuss the types of projects and the methods for funding these projects.

2. Self-Study Activities (Corresponding to the Intent of the Above Competency)

Below are two web sites containing many of the references you may need.

Web Sites		
Organization	Site Location	Notes
Department of Energy	http://wastenot.inel.gov/cted/stdguido.html	DOE Standards, Guides, and Orders
U.S. House of Representatives	http://law.house.gov/cfr.htm	Searchable Code of Federal Regulations

Review DOE 5700.2D, *Cost Estimating, Analysis, and Standardization*.

Review DOE N 4700.5, *Project Control System Guidelines*.

Review DOE O 130.2, *Budget Formulation*.

EXERCISE 4.8-A Referring to DOE Order 5700.2D, *Cost Estimating, Analysis, and Standardization*, define cost estimating.

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EXERCISE 4.8-B DOE Order 5700.2D, *Cost Estimating, Analysis, and Standardization*, provides several different methods for preparing cost estimates. Referring to the Order, describe them.

EXERCISE 4.8-C What are the “four distinct phases” of formulation of the Department’s budget?

Review DOE Order 4700.1, *Project Management System*, Attachment III, Definitions.

EXERCISE 4.8-D Describe and compare labor and nonlabor costs.

EXERCISE 4.8-E Describe and contrast direct and indirect costs.

EXERCISE 4.8-F List ways to reduce indirect costs.

Read DOE Order 4700.1, *Project Management System*, Chapter I, Part A, Overview and Part B, Program/Project Relationships, Section 3, Project Evolution. This Order will be phased out upon the incorporation of its contents into contracts or other agreements. It is presented here because its general content remains applicable.

Scan DOE O 430.1, *Life-Cycle Asset Management*, Section 6, Requirements.

EXERCISE 4.8-G Discuss the major types of projects as defined by funding level.

EXERCISE 4.8-H Discuss the methods for funding these projects.

3. Summary

DOE Order 5700.2D, *Cost Estimating, Analysis, and Standardization*, defines cost estimate as:

“... a statement of costs estimated to be incurred in the conduct of an activity such as a program, or the acquisition of a project or system.” Budget is usually defined as a financial plan used to estimate the results of future operations.

Projects are broken into categories by the total cost of the projects. Major System Acquisitions (MSAs) are above \$100 million, Major Projects (MPs) are \$50-100 million, and “other” projects are under \$50 million. Funding for projects are generally the responsibility of the Program Secretarial Office.

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The contractor decides the nature of the cost, either direct or indirect, and the decision is reviewed by the Contracting Officer and Chief Financial Officer for the contract, using government-prescribed guidelines. There is no absolute list of costs that belong in one group or another.

Labor costs are those associated with the labor needed to complete the project: salaries, benefits, and associated costs. Nonlabor costs are those for supplies and materials for the project.

Projects are broken into categories by the total cost of the projects. MSAs are above \$100 million, MPs are \$50-100 million, and “other” projects are under \$50 million. Funding for projects are generally the responsibility of the Program Secretarial Office.

4. Exercise Solutions

EXERCISE 4.8-A Referring to DOE Order 5700.2D, *Cost Estimating, Analysis, and Standardization*, define cost estimating.

ANSWER 4.8-A DOE Order 5700.2D, *Cost Estimating, Analysis, and Standardization*, defines cost estimate as: “. . . a statement of costs estimated to be incurred in the conduct of an activity such as a program, or the acquisition of a project or system.”

EXERCISE 4.8-B DOE Order 5700.2D, *Cost Estimating, Analysis, and Standardization*, provides several different methods for preparing cost estimates. Referring to the Order, describe them.

ANSWER 4.8-B

Cost Estimate Technique	Description
Bottoms-Up	“Generally, work statement and set of drawings or specifications are used to ‘takeoff’ material quantities required . . . in accomplishing a given operation or producing an equipment component. From these quantities, direct labor, equipment, and overhead costs are derived and added thereto.” (DOE Order 5700.2D, Attachment 1,1)

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Cost Estimate Technique	Description
Specific Analogy	These use the known cost of an item used in a prior system to estimate the cost of a similar item in the new system. Adjustments are then made to account for recognized differences in the two systems (i.e., design, complexity of performance, etc.).
Parametric	This requires historical databases on similar systems and uses statistical analysis to find correlations between the cost drivers and other system parameters.
Cost Review and Update	Previous estimates of the same project are examined for internal logic, completeness of scope, etc.
Trend Analysis	Actual costs of work performed are compared to the original projected costs and a contractor efficiency index is derived. The index is then used to predict the cost of work not yet completed.
Expert Opinion	Specialists are consulted reiteratively until a consensus cost estimate is established. This is used in the absence of other data or techniques.

EXERCISE 4.8-C What are the “four distinct phases” of formulation of the Department’s budget?

- ANSWER 4.8-C (1) Field Budget Process: The field budget process is the first phase of the Department's annual budget formulation process. It is the process through which Field Offices prepare and submit field budget data to Headquarters Elements for use in the corporate review budget process.
- (2) Corporate Review Budget (CRB) Process: The corporate review budget process is the second phase of the Department's annual budget formulation process. It is the process whereby Headquarters organizations use, among other budget-related information, field budget data and spring planning decisions to develop initial budget requests that are jointly and considered in the Department's internal budget review, resulting in CRB budget allowances.

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- (3) Office of Management and Budget (OMB) Budget Review Process: The OMB budget review process is the third phase of the Department's annual budget formulation process. It is the principal mechanism for preparing the Department's annual budget submission to the OMB. The Department's OMB request is based on the Secretary's final budget allowances resulting from the CRB process.
- (4) Congressional Budget Review Process: The congressional budget review process is the final of the Department's annual budget formulation process. It is based on final Presidential funding and policy determinations resulting from the OMB budget review process.

EXERCISE 4.8-D Describe and compare labor and nonlabor costs.

ANSWER 4.8-D Labor and nonlabor costs are those direct costs assigned to a specific project. Labor costs are those associated with the labor needed to complete the project: salaries, benefits, and associated costs. Nonlabor costs are those for supplies and materials for the project.

EXERCISE 4.8-E Describe and contrast direct and indirect costs.

ANSWER 4.8-E Direct costs are costs that can be specifically identified with a particular project or activity, including salaries, travel, equipment, and supplies directly benefiting the project or activity.

Indirect costs are costs incurred by an organization for common or joint objectives and that cannot be identified with a particular project or activity. Examples are utilities, computer processing, security, and administrative expenses. Indirect costs are often referred to as overhead or burdened expense.

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EXERCISE 4.8-F List ways to reduce indirect costs.

ANSWER 4.8-F There are several ways to reduce indirect costs including:

- Understand the basis for allocation of cost pools.
- Question rate changes.
- Question cost changes.
- Look for inefficient/costly practices.
- Provide input to budget validations of indirect costs.
- Work with the CFO for more effective process.

EXERCISE 4.8-G Discuss the major types of projects as defined by funding level.

ANSWER 4.8-G Projects are broken into three major categories: Major System Acquisitions (MSAs), Major Projects (MPs), and Other Projects. Included under Other are General Plant Projects (GPPs). MSAs are those systems or projects that have a total project cost in excess of \$100 million; MPs have a total cost from \$50-100 million; and Other Projects are those with total project cost below \$50 million. For reporting purposes, other projects are further subdivided into those \$15-50 million, those \$5-15 million, those \$1.2-5 million, and those under \$1.2 million (General Plant Projects.)

EXERCISE 4.8-H Discuss the methods for funding these projects.

ANSWER 4.8-H As part of the development of Programs' strategies and milestones planning, projects and project elements of the program are designated for Program Assistant Secretarial approval. The approved projects and/or project elements then become specific budget items in the annual planning, programming, and budgeting phase of program management.